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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,329	12/05/2003	Derek GILBOE	51736.1	1328

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EDWARD YOO C/O BENNETT JONES
1000 ATCO CENTRE
10035 - 105 STREET
EDMONTON, ALBERTA, AB T5J3T2
CANADA

EXAMINER

BENSON, WALTER

ART UNIT PAPER NUMBER

2858

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/707,329	Applicant(s) GILBOE, DEREK	
	Examiner Walter Benson	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on IDS filed 2/24/2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/24/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8 are presented for examination.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" (i.e. line 9, "control means") and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities:
 - a. [0037], line 2, internal battery, item 22 is not shown in Fig. 2 as described in the specification.

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b. [0039], lines 4-7, item 53 and item 54 are not shown in Fig. 4 as described in the specification.

c. [0037], lines 11-12, and [0046], line 13, item 62 has two different descriptions, power connector and electronic receptacle. (i.e. the same item number in a Fig. 4 requires the same description throughout the specification).

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell (GB 2 262 608 A and Ferrell hereinafter) in view of Waterman et al. (US Patent No. 5,627,749 and Waterman hereinafter).

6. As to claims 1 and 2, Farrell discloses a probe for measuring the electrical resistance of a resistive element, for estimating loss of a metal exposed to an environment substantially as claimed, comprising:

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an internal or external power source electrically connected to the resistive element (page 7, lines 18-20);

a meter for measuring the electrical resistance of the resistive element (page 5, lines 6-8);

a temperature sensing device for measuring the temperature of the resistive element disposed proximally to the resistive element (page 5, lines 3-4 and page 7, lines 24-29);

a memory for storing resistance and temperature data (page 5, lines 9-12);

control means for applying an electric current and potential across the resistive element, receiving the output data of the resistance meter, receiving the output data of the temperature sensing device, and storing the data into the memory where the resistance data is associated with the temperature data (page 8, lines 5-7 and page 9, lines 16-21);

where the probe does not use element a comparative reference (page 4, lines 27-28 and page 5, line 1).

Farrell did not expressly disclose:

a sealed hollow body having a first and second end [claim 1];

a resistive element contained at the first end of the body where a surface of the resistive element is exposed to the environment and the resistive element has a similar or identical composition to the exposed metal [claim 1];

where the resistive element is comprised of an electrically conductive metallic element having known dimensions which is compositionally similar or identical to the metal [claim 2].

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Farrell, as evidenced by Wateman.

Waterman discloses corrosion monitoring tool having:

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a sealed hollow body having a first and second end [claim 1] (Fig. 1; col. 3, lines 15-17) to provide for a stand alone downhole monitoring probe;

a resistive element contained at the first end of the body where a surface of the resistive element is exposed to the environment and the resistive element has a similar or identical composition to the exposed metal [claim 1] (Fig. 1; col. 2, lines 5-12) to collect raw data for subsequent analysis;

where the resistive element is comprised of an electrically conductive metallic element having known dimensions which is compositionally similar or identical to the metal [claim 2] (col. 4, lines 12-16).

Given the teaching of Waterman, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Ferrell by employing the well known or conventional features of sensor probe technology, such as disclosed by Waterman, in order to provide for a downhole probe with memory and storage from the resistance corrosion sensor and for the purposes discussed above.

7. As to claim 3, Farrell discloses a probe for measuring the electrical resistance of a resistive element, for estimating loss of a metal exposed to an environment comprising:

where the temperature measuring device is disposed proximally to the resistive element (page 7, lines 24-29).

8. As to claim 6, Farrell discloses a probe for measuring the electrical resistance of a resistive element, for estimating loss of a metal exposed to an environment comprising:

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9. Farrell discloses a probe for measuring the electrical resistance of a resistive element, for estimating loss of a metal exposed to an environment comprising:

where the compact electrical circuit comprises a microchip (page 9, line 21).

10. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrell in view of Waterman as applied to claim 1 above, and further in view of Stover (US Patent No. 5,450,765 and Stover hereinafter).

Although the combine teaching of Ferrell and Waterman shows substantial features of the claimed invention (discussed in the paragraphs above), it fails to disclose:

a pressure sensor exposed to the environment for measuring the pressure of the particular environment [claim 4];

where the control means comprises a compact electrical circuit comprising a resistance measurement circuit, a temperature measurement circuit, a pressure measurement circuit, which is operatively connected to, or comprises, the memory [claim 5].

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Farrell in view of Waterman, as evidenced by Stover. Stover discloses an apparatus for providing signal communications between the interior and exterior of a pipeline having:

a pressure sensor exposed to the environment for measuring the pressure of the particular environment [claim 4] (col. 3, lines 65-68) to include multiple sensing devices for different parameters to be detected in the pipeline or downhole;

where the control means comprises a compact electrical circuit comprising a resistance measurement circuit, a temperature measurement circuit, a pressure measurement circuit, which is operatively connected to, or comprises, the memory [claim 5] (col. 3, lines 26-28 and lines 58-68).

Given the teaching of Stover, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Ferrell in view of Waterman by employing the well known or conventional features of sensor probe technology, such as disclosed by Stover, in order to provide information as to the rate of corrosion occurring within the pipeline and for the purposes discussed above.

Allowable Subject Matter

11. Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record fails to teach in combination as claimed a corrosion probe having an element carrier at its first end for holding the conductive metal element in the particular environment. A body releasably attached to the element carrier. A carrier plug for insertion into the structure that is being exposed to the particular environment at its second end, the carrier plug being fixed to the probe body.

Prior Art Made of Record

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

A. Felix et al. (US 2003/0029232 A1) discloses a method and apparatus for measuring corrosion rates in a hostile environment;

B. Malver et al. (US Patent No. 6,623,616 B1) discloses a method and apparatus for corrosion monitoring;

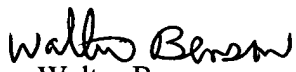
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Benson whose telephone number is (571) 272-2227. The examiner can normally be reached on Mon to Fri 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Walter Benson
Patent Examiner

February 5, 2005